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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/896,074	06/28/2001	Thomas P. Glenn	G0037M	9522

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EXAMINER

COLEMAN, WILLIAM D

ART UNIT

PAPER NUMBER

2823

DATE MAILED: 08/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	09/896,074	GLENN ET AL.
	Examiner W. David Coleman	Art Unit 2823

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 24 June 2003.

2a) This action is **FINAL**.      2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-21 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) 13-21 is/are allowed.

6) Claim(s) 1 and 5-12 is/are rejected.

7) Claim(s) 2-4 is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on \_\_\_\_\_ is: a) approved b) disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some \* c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

#### Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s) _____
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____	6) <input type="checkbox"/> Other: _____

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments filed June 24, 2003 have been fully considered but they are not persuasive.
2. Applicants contend that Sasano, U.S. Patent 6,313,525 B1 herein known as Sasano fails to teach Applicants invention, namely forming a central aperture in a substrate because the prior art reference fails to use the term "substrate".
3. In response to Applicants contention that Sasano fails to teach Applicants invention, please note that the term "substrate" is a very broad term and includes the package body of Sasano. Furthermore, Sasano discloses the same subject matter. Therefore Applicants arguments are moot.
4. Applicants contend that pertaining to claim 5 the combined teachings fail to teach Applicants invention because in flip-chip mounting the chip is mounted face-down and then reflow soldered using small solder balls or bumps to a substrate having a matching pattern of circuit traces.
5. In response to Applicant contention that the combined teachings of Sasano and Peterson fail to teach Applicants invention, please note that Applicants arguments only focus on the prior art problem in the background of the invention.
6. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge

generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

In this case, the Peterson reference discloses the subject matter of packing an opto-electronic device. Therefore Applicants arguments are moot.

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

8. The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

9. Claims 1, 6, 7, 8, 9, 10, 11 and 12 are rejected under 35 U.S.C. 102(e) as being anticipated by Sasano, U.S. Patent 6,313,525.

10. Pertaining to claim 1, Sasano discloses a semiconductor process as claimed. See FIG. 1 where Sasano discloses a method comprising:

forming a central aperture in a substrate 1;  
forming electrically conductive trace 6 on a first surface of said substrate, said trace comprising a tab (area 4); and  
supporting an image sensor 6 in said central aperture by said tab.

11. Pertaining to claim 6, Sasano teaches the method of claim 1 wherein said supporting comprises forming a bump between a bond pad on a first surface of said image sensor and said tab.

12. Pertaining to claim 7, Sasano teaches the method of claim 6, wherein said support comprises forming a bump between a bond pad on a first surface of said image sensor and said tab.

13. Pertaining to claim 8, Sasano teaches the method of claim 7 further comprising coupling a window to said first surface of said image sensor, said window covering and protecting said active area.

14. Pertaining to claim 9, Sasano teaches the method of claim 8 further comprising directing radiation at said image sensor, said radiation striking said window, passing through said window, and striking said active area, said active area responding to said radiation.

15. Pertaining to claim 10, Sasano teaches the method of claim 7, wherein said tab extends below a periphery of said central aperture.

16. Pertaining to claim 11, Sasano teaches the method of claim 1 wherein said forming an electrically conductive trace comprises:

coupling an electrically conductive sheet to said first surface of said substrate; and  
patterning said sheet to form said trace

***Claim Rejections - 35 USC § 103***

17. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

18. Claims 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sasano, U.S. Patent 6,313,525 as applied to claim 1 and in further view of Peterson et al., U.S. Patent 6,384,473 B1.

19. Sasano discloses a semiconductor process substantially as claimed.

Pertaining to claim 5, Sasano fails to teach the method of claim 1 wherein said supporting comprises flip chip mounting said image sensor to said tab. Peterson teaches flip chip mounting an image sensor. In view of Peterson, it would have been obvious to one of ordinary skill in the art to incorporate the flip chip mounting of an image device in the Sasano semiconductor process because the light-sensitive side is optically accessible through the window (see Abstract, 3<sup>rd</sup> sentence).

***Objections***

20. Claims 2, 3 and 4 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Allowable Subject Matter***

21. Claims 13-21 allowed.

***Conclusion***

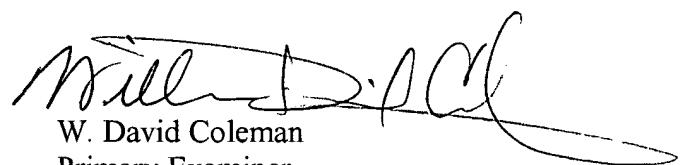
22. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

23. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

24. Any inquiry concerning this communication or earlier communications from the examiner should be directed to W. David Coleman whose telephone number is 703-305-0004. The examiner can normally be reached on 9:00 AM-5:00 PM.

25. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Olik Chaudhuri can be reached on 703-306-2794. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7721 for After Final communications.

26. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.



W. David Coleman  
Primary Examiner  
Art Unit 2823

WDC  
August 7, 2003